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Note on the Eared Pheasants (*Crossoptilon*) with the Description of a New Subspecies.

JEAN DELACOUR.

(Text-figure 1).

In the course of detailed studies necessary for the preparation of a new work on the pheasants that Dr. William Beebe and I hope to publish shortly after the end of the war, we have recently examined the eared pheasants (*Crossoptilon*).

Although a great deal remains to be learned of the distribution and variation of these birds, we nevertheless now possess useful information which was not available twenty-seven years ago when Dr. Beebe's "Monograph of the Pheasants" was published, and we can form a better understanding of the whole group. It appears to consist of three distinct species. Two of them are very closely related and highly specialized, while the third one is different and more primitive.

The blue eared pheasant (*C. auritum*) shows the highest degree of evolution in its tail, which is normally composed of twenty-four rectrices, of which the two central pairs have very long, disintegrated and widely separated webs almost to the tip. It is found in Kansu and the neighboring parts of Kokonor and perhaps of northwestern Szechuan. "Interior of China" has so far been given as its type locality, which I now propose to restrict to Si-gu, Kansu, where Serezhewski collected specimens.

The brown eared pheasant (*C. mantchuricum*) inhabits northern Shansi and northwestern Chihli; it is a little less specialized, having only 22 rectrices, the central pair of which is also much disintegrated, but there is a small solid patch at its tip. I restrict its type locality to the mountains beyond San-yu, Chihli, (after A. David), to replace "vicinity of Peking."

There is no geographical variation in these two species, and they have completely isolated ranges on high mountains. In both the ear-tufts consist of long and disintegrated feathers, and they project conspicuously above the nape. The tail is much compressed and usually held upwards, the central rectrices well above the others. They can be considered as forming one super-

species, being identical in shape, voice and behavior.

The third species, *C. crossoptilon*, is larger; the ear-tufts are short and hardly show above the head, if at all. The rectrices number 20, exceptionally 22, and are almost normal in structure, the terminal half having no long disintegrated webs. The tail is much flatter, less compressed, and held downwards. It certainly represents a less specialized, more primitive type.

In life, the aspect of *C. crossoptilon* is strikingly different from that of the other two species, as are its voice and actions.

The distribution of the species *crossoptilon* is still incompletely recorded. Unlike *C. mantchuricum* and *C. auritum*, the present species varies greatly in color throughout its range, which consists of the high mountains of central and southwestern Szechuan, northwestern Yunnan, eastern Tibet and southern Kokonor. In the southwest, according to Ludlow (*Ibis*, 1944, pp. 377-379) it reaches Long. 91° 33' E. in the Tsangpo Valley, and it does not occur south of the main Himalayan axis.

The species varies in color from almost pure white, with black cap and tail-tip, to a dark blue-gray.

The western Szechuan form (*C. c. crossoptilon*) is white with dark brownish-gray wings and more or less gray wash on the mantle. The tail is mostly black, with some brownish-gray on the basal half, green and purple reflections near the tip. The type locality of *C. c. crossoptilon* Hodgson (*Journ. As. Soc. Bengal*, 7, 1838, p. 864) has remained vague, as no locality was given with the description. I propose to restrict it to Ta-tien-lu, western Szechuan, where many specimens, all agreeing with the type, have been collected.

The form from eastern Tibet (*C. c. drowyni*) has an almost pure white body, a variable but always considerable amount of white or gray in the tail, and very little gray in its wing, restricted generally to the inner webs of the primaries. It meets and

TEXT-FIG. 1. Distribution of *Crossoptilon*.

intergrades with a pale gray form (possibly *C. c. dolani*?) in the Upper Salween region. In his book "Salween," R. Kaulback reports that he found in 1936 "large pheasants, pure white apart from pink rings around the eyes, and a gray patch on the top of the head" near Idashi, north of Zimda (near 95° 30' E. Long., 31° 20' N. Lat.) and farther west and north, between Kyierothang and Deje (94° 40' E. 31° 40' N.). "both kinds all white and pale grey with black tips to wings and tails, in mixed flocks with between them half-bred of every shade." A little to the south, near Sating (94° 40', 31° 20'), in light juniper forest, he came across about fifty white eared pheasants and blood pheasants feeding together by the side of the path, and further west, north of Pengar Gumpa (94° 10', 31° 20') he saw "thirty more big pheasants mostly of the blue variety with some half bred."

As no specimens were collected, it is impossible to know if the "pale grey" birds seen by Kaulback are *dolani* or some other still undiscovered race. It seems improbable that it could be *harmani*, which is very dark indeed.

There has been a great deal of confusion as to the name to be applied to the whitest race, as *C. drouyni* was described by Verreaux (*Nouv. Archives du Muséum*, 4, Paris, 1868) from a bird sent by M. Dabry, French Consul at Hankow; the bird is recorded as

coming from "Tibet, in the part called Mou-Pin." This last named must have been an error, as the country usually known as Mupin is that around Ta-tien-lu where *C. c. crossoptilon* is commonly found, and the series collected there shows very little variation. Therefore, the type locality of *C. drouyni* ought to be fixed, and I propose to restrict it to the Sok Pass, Tibet, near which several specimens were collected (including the type of *leucurum*) by Thorrold and Bower between Chamdo and the Sok Pass, and by Prince Henri d'Orleans, west of the Pass.

Individuals from this region vary, some having the basal part of the tail white as well as the shafts of the primaries as in Seebohm's male type of *C. leucurum*; the majority of them, however, are identical with the type of *C. drouyni* and agree with the plates in the *Nouvelles Archives du Muséum* and in Elliot's Monograph. They have dark shafts to the primaries, the inner webs of which are more or less mottled with brownish-gray; there is sometimes a very slight gray wash on the mantle and rump and the basal part of the rectrices is gray with more or less white on the outer pairs. Verreaux's name *drouyni* (1868) antedates Seebohm's *leucurum* (1892) and must be used for this subspecies.

In 1935, a very distinct pale gray form *C. c. dolani* was discovered by the Dolan ex

edition in southern Kokonor, at Jyekundo (26° 45', 33°) and at some distance to the north on the Yangtze River. It has been described and studied by R. M. de Schauensee and E. Schäfer (*Proc. Acad. Nat. Sci. Philadelphia*, 89, 1938, p. 339—Ibid, 90, 1939, p. 90). It is a very pale edition of *harmani*, with the feathers of the upper parts very rough to the touch, instead of smooth and rather silky as in the other subspecies.

C. c. harmani shows a superficial resemblance in color to *C. auritum*, but this is purely coincidental, as the two birds differ sharply in the shape and proportions of the tail and ear-tufts, and they are widely separated geographically. Even in color *harmani* differs from *auritum* in its white belly, in a broader white band on the nape and a white stripe down the fore-neck, in its darker, browner neck and upper back, its much lighter lower back and rump, and in the absence of white in the tail. It is identical with *C. c. crossoptilon* in the structure of tail and ear-tufts as well as in its general build. It inhabits the southwestern part of the range of the species, on the northern slopes of the Himalaya from 91° 33' in the west in the Tsangpo Valley to Pome, Gyale and Pankar west of Gyamda Dzong (93° 30' E, 30° 15' N).

Beebe has observed and recorded eared pheasants from northeastern Yunnan, and good series have since been collected on the Lichiang Range by Forrest and by Rock. These series are fairly uniform, whether the birds were collected in the spring or in the autumn; wear affects only the white parts of the plumage, which become ochraceous yellow by stain long after the moult. These Lichiang birds have paler wings than *C. c. crossoptilon*, but they are not as white as *C. c. drouyni*. I propose for them the name of:

Crossoptilon crossoptilon lichiangense
—subsp. nov.

Differs from *C. c. crossoptilon*, which it most resembles, in having the wings lighter gray. The outer webs of the primaries are light gray; secondaries and tertiaries pale gray in their exposed part, as are the wing-coverts. The four outer pairs of rectrices in most cases have a distinct whitish-gray outer border, which is usually lacking in *C. c. crossoptilon*, and more gray on the basal half of all the tail feathers; gray wash of the mantle averaging weaker. Adult males are lighter than females and young specimens, as in all other forms. "Iris pale golden yellow; cere grey; bill fleshy pink, yellowish towards the base; legs and feet scarlet, claws horn-brown; skin around the eyes deep rich crimson."

Type 5, No. 543127, American Museum of Natural History, New York, coll. by C. For-

rest, eastern flank of the Lichiang Range, N.W. Yunnan, alt. 14,000 feet, October 10, 1922. Wing, 327; tail, 520; tarsus, 95; culmen (from nostril), 36 mm. Eight specimens examined; one has 21 rectrices.

There are no doubt many intermediates between the different races still to be recorded, and in many areas unstable populations exist. Of the forms known and examined, *crossoptilon*, *lichiangense*, *dolani* and *harmani* show little individual variation, but *drouyni* (= *leucurum*) appears rather unstable as to the amount of white on the rectrices and of the dark tinge on the primaries and their shafts.

Ghigi has made an interesting survey of the genetic characters of the eared pheasants in studying and experimenting with hybrids (*L'Oiseau*, 1934, pp. 10-23). It appears that on the one hand the long ear-tufts of *auritum* and *mantchuricum* are dominant, while on the other hand the flat, almost normal tail of *crossoptilon* is likewise dominant.

In hybrids between *auritum* and *mantchuricum* the blue color and clear white tail patches of the former are plainly dominant; the central rectrices are intermediate in structure.

Brown eared pheasants were first introduced into France in 1864, they were soon bred in great numbers first by Melle de Bellonet in 1866, and in 1868 and 1869 (*Bull. Soc. Accl.*, Paris, 1870, p. 170) several hundred were reared. Ever since, they have been well established in Europe and later in America.

The first blue eared pheasants to arrive alive in Europe from China were sent to my collection at Clères in 1929 by A. Hampe, whom I had commissioned to this effect. The following years some were also introduced into the United States. They were soon propagated. Both species are now common in captivity, a happy state of things since these large pheasants are threatened with an early extinction in their North China home, owing to persecution and to the destruction of the forests and brush in which they live.

A few white eared pheasants were sent from Ta-tien-lu to London in 1891. One pair laid eggs at the Berlin Zoo, but the species was never bred; only a hybrid with the brown was reared at Antwerp, and it now figures in the Tring collection. It has been studied by Ghigi.

In 1936 several pairs of the Szechuan race (*C. c. crossoptilon*) were received in California by Mr. W. Leland Smith, who succeeded in rearing several in 1938 and the following years. There is now a fair number of these fine birds in the United States.

Lt. Col. F. M. Bailey brought a pair of *C. c. harmani* to England a few years ago, but they died without having bred.

